

Claims

Claim 1. (Currently amended) A method, comprising:

storing, in response to a calibration initiation, at least one operational parameter of an input channel in communication with a probe;

applying a ~~calibration~~ signal to said probe;

verifying ~~that said calibration signal~~ automatically from an output signal communicated by said probe in response to the applied signal that the applied signal is a valid calibration signal;

determining, ~~if said calibration signal communicated by said probe~~ the applied signal is verified as the valid calibration signal, whether the output signal exhibits a characteristic indicative of inappropriate probe operation;

adapting at least one calibration parameter in response to a determination of inappropriate probe operation; and

retrieving said at least one operational parameter of said input channel.

Claim 2. (Previously amended) The method of claim 1, wherein said calibration initiation comprises an indicium of a user request to calibrate.

Claim 3. (Original) The method of claim 1, wherein:

said step of retrieving said at least one operational parameter of said input channel is performed after a determination that said exhibited characteristic indicative of inappropriate probe operation has been reduced to a threshold level.

Claim 4. (Original) The method of claim 3, further comprising displaying a user message indicative of a completed calibration.

Claim 5. (Original) The method of claim 1, wherein said calibration parameter comprises a probe compensation parameter.

Claim 6. (Original) The method of claim 1, further comprising:
detecting an attenuation factor associated with said probe.

Claim 7. (Original) The method of claim 1, wherein said calibration parameter comprises at least one operational parameter of said input channel, said adapted at least one operational parameter tending to offset said characteristic indicative of inappropriate probe operation.

Claim 8. (Currently amended) The method of claim 1, wherein said ~~calibration~~ output signal ~~communicated by said probe~~ is displayed on a display device, said inappropriate probe operation being determined using said displayed ~~calibration~~ output signal.

Claim 9. (Currently amended) The method of claim 8, wherein a display region associated with said display device delineates a display envelope within which said ~~calibration~~ output signal provided by a correctly calibrated probe is displayed.

Claim 10. (Currently amended) The method of claim 9, further comprising:
modifying said ~~calibration~~ applied signal ~~communicated to said probe~~; and

modifying said display region associated with said display device in a manner consistent with said ~~calibration~~ applied signal modifications.

Claim 11. (Currently amended) The method of claim 1, wherein said step of determining comprises comparing said ~~calibration~~ output signal ~~communicated by said probe~~ to a reference calibration signal, said characteristic indicative of inappropriate probe operation comprising an unfavorable comparison.

Claim 12. (Canceled)

Claim 13. (Currently amended) The method of claim 1, wherein said verifying step comprises:

modifying at least one of a frequency parameter, a duty cycle parameter and an amplitude parameter of said ~~calibration~~ applied signal;

comparing said ~~calibration~~ output signal ~~communicated by said probe~~ to a reference calibration signal; and

said step of determining being avoided in the case of an unfavorable verification comparison of said ~~calibration~~ output signal with the reference calibration signal.

Claim 14. (Currently amended) The method of claim 1, further comprising:

displaying at least one of an over-shoot or under-shoot value associated with said ~~calibration~~ output signal ~~communicated by said probe~~, said over-shoot and under-shoot values approaching a predefined value as a compensation of said probe is properly adjusted.

Claim 15. (Currently amended) The method of claim 1, wherein said probe communicates with any one of a plurality of input channels, said method further comprising:

for each input channel having associated with it ~~at least a~~ the valid calibration signal, performing the steps of storing, determining, adapting and retrieving.

Claim 16. (Currently amended) The method of claim 1, wherein in the case of said ~~calibration~~ output signal being communicated by each of a plurality of probes, each of said plurality of probes communicating via a respective input channel; said method is modified as follows:

said step of storing comprises storing at least one operational parameter of each of said plurality of input channels;

said applying step comprises applying said ~~calibration~~ signal to each of said plurality of probes;

said verifying step comprises verifying that said ~~calibration~~ output signal communicated by each of said plurality of probes ~~is a~~ corresponds to the valid calibration signal;

said step of determining comprises determining whether said ~~calibration~~ output signals ~~communicated by said respective probes~~ exhibit inappropriate temporal synchronization;

said step of adapting comprises adapting a temporal offset parameter of at least one input channel in response to a determination of inappropriate temporal synchronization; and

said step of retrieving comprises retrieving said storing said at least one

operational parameter of each of said plurality of input channels.

Claim 17. (Currently amended) The method of claim 16, wherein said calibration initiation comprises at least one of a detection of ~~a said~~ the valid calibration signal via each of said plurality of input channels and an indicium of a user request to perform a deskew operation.

Claim 18. (Original) The method of claim 1, further comprising:

determining whether an error condition exists, said error condition comprising at least one of a return terminal of a probe being incorrectly grounded, an amplitude of an input signal being incorrect, and signal noise above a threshold level being present.

Claim 19. (Currently amended) A method, comprising:

storing, in response to a calibration initiation, at least one operational parameter of each of a plurality of input channels in communication with respective probes;

applying a ~~calibration~~ signal to said respective probes in communication with each of said plurality of input channels;

verifying automatically from respective output signals ~~that said calibration signals~~ communicated by said probes in response to the applied signal that the applied signal is a ~~are~~ valid calibration signals ~~with each valid calibration signal~~ providing a respective output signal for subsequent use by a processor;

determining, if said output signals ~~provided by said input channels~~ are verified as being response to the valid calibration signal, whether said output

signals exhibit a characteristic indicative of inappropriate temporal synchronization;
adapting a temporal calibration parameter of at least one of said input
channels in response to a determination of inappropriate temporal synchronization;
and
retrieving said at least one operational parameter of each of a plurality of
input channels.

Claim 20. (Canceled)

Claim 21. (Canceled)

Claim 22. (Currently amended) A method for use in a signal analysis device, said
signal analysis device comprising a plurality of input channels and a processor,
each of said input channels capable of receiving an input signal from a respective
probe and producing therefrom a respective output signal, said processor adapted
to process data representative of at least one of said output signals, said method
comprising:

storing, in response to a calibration initiation, at least one operational
parameter of an input channel in communication with a probe;

applying a ~~calibration~~ signal to said probe;

verifying automatically from an output signal ~~that said calibration signal~~
communicated by said probe that the applied signal is a valid calibration signal;

determining, if said ~~calibration~~ output signal ~~communicated by said probe~~
corresponds to the valid calibration signal, whether said output signal exhibits a
characteristic indicative of inappropriate probe operation;

adapting at least one calibration parameter in response to a determination of inappropriate probe operation; and

retrieving said at least one operational parameter of said input channel.

Claim 23. (Original) The method of claim 22, wherein said step of retrieving is performed in response to an indicium of a user request to terminate calibration.

Claim 24. (Currently amended) The method of claim 23, wherein said user indicium comprises at least one of a cancel command and a determination that said ~~calibration~~ applied signal ~~communicated by said probe~~ is not a the valid calibration signal.

Claim 25. (Previously amended) A signal analysis device, comprising:

a plurality of input channels, each of said input channels capable of receiving an input signal from a respective probe and producing therefrom a respective output signal;

a processor, adapted to process data representative of at least one of said output signals; and

a calibration signal generator, for generating a calibration signal for communication to at least one of said input channels via a respective probe;

said processor, in a calibration mode, storing operational parameters of an input channel having associated with it a probe to be calibrated, verifying from an output ~~said calibration~~ signal communicated via said respective probe that the input signal is a calibration signal, enabling the calibration of said probe to be calibrated

when the input signal is verified as the calibration signal, and restoring to said input channel the stored operational parameters.

Claim 26. (Original) The signal analysis device of claim 25, wherein said signal analysis device comprises an oscilloscope.